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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/789,050

02/27/2004

Paul M. Baggenstoss

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23523 7590 08/28/2007
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EXAMINER

LEE, JOHN W

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

08/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/789,050	Applicant(s) BAGGENSTOSS, PAUL M.	
	Examiner John Wahnkyo Lee	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20040227</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claim 1 is generic to the following disclosed patentably distinct species:

- I. Species corresponding to FIG. 2
- II Species corresponding to FIG. 3
- III. Species corresponding to FIG. 4

The species are independent or distinct because the applicant discloses different embodiments for implementing the invention. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required

because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

2. Applicant's election with traverse of species III in the reply filed on 12 June 2007 is acknowledged. The traversal is on the ground(s) that the application includes generic claims 1-7 with no specific claims and the improper restriction. This is not found persuasive because as following reason. The restriction was made based on MPEP § 809.02(a), for the applicant is disclosing three distinct species, which correspond to fig. 2, 3, and 4, respectively. Based on MPEP § 806.04(b), "Species may be either

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independent or related under the particular disclosure." Moreover, it is disclosed on MPEP § 808.01(a) that "Where there is no disclosure of a relationship between species, they are independent inventions. A requirement for restriction is permissible if there is a patentable difference between the species as claimed and there would be a serious burden on the examiner if restriction is not required. Where there is a relationship disclosed between species, such disclosed relation must be discussed and reasons advanced leading to the conclusion that the disclosed relation does not prevent restriction, in order to establish the propriety of restriction." Therefore, the restriction requirement was made proper as an election of species.

The applicant selected species III that corresponds to fig. 4, and species III reads on all the claims except claim 5. So, the examiner will consider only claims 1-4 and 6-7 for the further examination. Since claim 5 is not going to be considered for further examining the application, the examiner requires the applicant to amend claim 6 not depending on claim 5 on the merit of the applicant for further prosecution.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

3. An initialed and dated copies of Applicant's IDS form 1449-Paper No. 20040207, is attached to the instant Office action.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baggenstoss ("The chain-rule processor: optimal classification through signal processing") in view of Elcher (US 4,071,886), and further in view of Huang et al. (US 5,390,261).

Regarding claim 1, Baggenstoss teaches a modularized classifier (abstract; "chain-rule processor") receiving raw input data (pages 231, "raw data") having a plurality of features comprising: a plurality of class specific modules (abstract; pages 232-234), each class specific module having a feature calculation input (pages 232-234), a feature calculation section (pages 232-234), a feature calculation output (pages 232-234), a correction input (pages 232-234, "Q-function), a correction section and a correction output (pages 232-234), said class specific modules being arranged in chains of class specific modules having at least one class specific module, each chain being associated with one class, whereby the first class specific module in the chain of class specific modules receives the raw input data at the feature calculation input and the feature calculation input and the correction input of each intermediate class specific module in the chain is joined to the corresponding output of the preceding class specific module in the chain (pages 232-234);

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at least one probability density function evaluation module for each class joined to the feature calculation output of the last module in the chain of class specific modules, said at least one probability density function evaluation module having an evaluation output (pages 230-234);

a combiner for each chain joined to the evaluation output of the probability density function evaluation module for the class and to the correction output of the last class specific module in the chain of class specific modules, said combiner providing a combined output of the correction output and the evaluation output (pages 230-234).

However, Baggenstoss does not teach rest of the claim limitations. Instead of Baggenstoss, Elcher discloses a null value at the input (col. 9, lines 28-30), and Huang discloses a compare module receiving the combined output from each combiner associated with each class, said compare module having a comparator output which outputs a signal indicating that the combiner output received is of the class associated with the combiner providing the combiner output having the highest value thus indicating the class of the raw input data (abstract; Fig 4a-20; col. 5, lines 13-47).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Elcher's invention and Huang's invention in Baggenstoss's method to provide an improvement applying the PDF projection theorem as suggested Baggenstoss (abstract).

Regarding claim 2, Baggenstoss further teaches the correction section of each class specific module utilizes a variable reference hypothesis to optimize the numerical precision of the correction section (pages 231-234).

Regarding claim 3, Baggenstoss further teaches the combiner is a summer (page 233, section 3.2); and said correction section computes a log J-function which is summed with the correction input and provided to the correction output (page 233, section 3.2).

Regarding claims 4 and 6, Huang further discloses a thresholding module positioned between each said combiner and said compare module to receive the value, said thresholding module eliminating all values below a predetermined threshold (claim 3).

Regarding claim 7, Baggenstoss further teaches plurality of class specific modules are selected from feature transformations including various invertible transformations, spectrograms, arbitrary linear functions of exponential random values, the contiguous autocorrelation function, the non-contiguous autocorrelation function, autoregressive parameters, cepstrum, order statistics of independent random values, and sets of quadratic forms (pages 232-234).

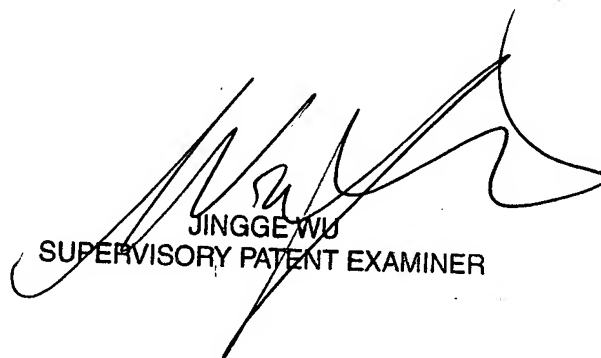
Conclusion

6. Claims 1-4 and 6-7 are rejected; claim 5 was withdrawn for consideration.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Wahnkyo Lee whose telephone number is (571) 272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JINGGE WU
SUPERVISORY PATENT EXAMINER

John W. Lee
(AU 2624)